

DisplayX	DisplayY	Xmin	Xmax	Ymin	Ymax	Business_Name
-122.545731	45.546310	-122.546703	-122.544703	45.545592	45.547592	Munktiki
-122.692241	45.576920	-122.693240	-122.691240	45.576092	45.578092	Myers Lyster
-122.644281	45.496040	-122.645631	-122.643631	45.495048	45.497048	Bullseye Connection Gallery
-122.676081	45.538620	-122.677249	-122.675249	45.537786	45.539786	Ostrom Glass & Metal Works
-122.709161	45.472390	-122.710160	-122.708160	45.471492	45.473492	Dolce Glass Tile
-122.689121	45.528320	-122.690120	-122.688120	45.527522	45.529522	American Imaging Solutions Llc
-122.679371	45.516610	-122.679921	-122.677921	45.515366	45.517366	All Mirrors & Picture Glass 50 Off
-122.663371	45.535570	-122.664612	-122.662612	45.534561	45.536561	Coast Mirror Company Inc
-122.568261	45.564190	-122.569401	-122.567401	45.563196	45.565196	Owens-brockway Glass Container Inc.
-122.674661	45.561380	-122.675941	-122.673941	45.560379	45.562379	Batho Studios
-122.676321	45.536840	-122.677255	-122.675255	45.536174	45.538174	Duncan Dichroic
-122.558011	45.477210	-122.559025	-122.557025	45.475936	45.477936	Phatkatz Glass Design
-122.731841	45.583210	-122.732750	-122.730750	45.582443	45.584443	Design Lite Studio Llc
-122.665141	45.512770	-122.666141	-122.664141	45.511912	45.513912	Insane Glass
-122.677981	45.552670	-122.678710	-122.676710	45.551670	45.553670	Rich Glass
-122.619621	45.535280	-122.620882	-122.618882	45.534280	45.536280	Aquatic Maintenance
-122.618061	45.481550	-122.619061	-122.617061	45.480377	45.482377	Sunflower Creations Inc
-122.616431	45.548710	-122.617170	-122.615170	45.547710	45.549710	Howling Wolf Art Glass
-122.517621	45.492750	-122.518621	-122.516621	45.492242	45.494242	Destiny Stained Glass
-122.535981	45.568680	-122.538768	-122.536768	45.567062	45.569062	Esp Supply Company Llc
-122.674991	45.502460	-122.676422	-122.674422	45.501909	45.503909	Aegina Glassworks Inc.
-122.567421	45.565277	-122.569421	-122.565421	45.563277	45.567277	Owens-brockway Glass Container Inc.
-122.632979	45.574762	-122.633979	-122.631979	45.573762	45.575762	Mutant Arts & Alchemy Inc
-122.601256	45.572275	-122.603256	-122.599256	45.570275	45.574275	General Glass Inc
-122.601461	45.570997	-122.603461	-122.599461	45.568997	45.572997	Glass Alchemy Ltd
-122.519719	45.554117	-122.520719	-122.518719	45.553117	45.555117	Strategic Materials, Inc.
-122.652795	45.465072	-122.653795	-122.651795	45.464072	45.466072	Parabelle Glass

Address	ZIP_Code	City_1	State	NAICS_Code	SIC_Code
11350 Ne Klickitat St	97220	Portland	Oregon	327212	32290801
2440 N Lombard St	97217	Portland	Oregon	327212	32290704
3722 Se 21st Ave	97202	Portland	Oregon	327211	32110305
2170 N Lewis Ave	97227	Portland	Oregon	327215	32310100
3142 Sw Nevada Ct	97219	Portland	Oregon	327212	32290100
1732 Nw Johnson St	97209	Portland	Oregon	327215	32310000
1001 Sw 5th Ave Ste 1100	97204	Portland	Oregon	327211	32119905
1732 Ne 2nd Ave	97212	Portland	Oregon	327211	32110000
5850 Ne 92nd Dr	97220	Portland	Oregon	327213	32210000
5304 N Albina Ave	97217	Portland	Oregon	327215	32319901
820 N River St	97227	Portland	Oregon	327215	32319901
10215 Se Foster Rd	97266	Portland	Oregon	327212	32290000
6218 N Oberlin St	97203	Portland	Oregon	327215	32310108
80 Se Madison St	97214	Portland	Oregon	327212	32290000
4035 N Missouri Ave	97227	Portland	Oregon	327212	32290000
1710 Ne 42nd Ave	97213	Portland	Oregon	327215	32310000
4311 Se Reedway St	97206	Portland	Oregon	327212	32290802
3525 Ne 46th Ave	97213	Portland	Oregon	327215	32310000
14122 Se Center St	97236	Portland	Oregon	327215	32310000
12067 Ne Glenn Widing Dr # 105	97220	Portland	Oregon	327215	32319902
2828 Sw Corbett Ave # 117	97201	Portland	Oregon	327213	32210000
9710 Ne Glass Plant Rd	97220	Portland	Oregon	327213	32219905
7101 Ne 33rd Dr	97211	Portland	Oregon	327212	32290000
6763 Ne 59th Pl Bldg 7	97218	Portland	Oregon	327211	32110302
6539 Ne 59th Pl	97218	Portland	Oregon	327211	32110305
14041c Ne Sandy Blvd	97230	Portland	Oregon	327213	32210100
1313 Se Spokane St	97202	Portland	Oregon	327215	32310100

Number_of_employees	Sales_Volume
1	\$110,000
2	\$100,000
121	\$19,800,000
13	\$1,200,000
3	\$200,000
15	\$1,100,000
1	\$77,000
9	\$1,000,000
118	\$20,115,560
8	\$440,000
1	\$55,000
2	\$99,000
2	\$160,000
5	\$230,000
1	\$73,000
4	\$160,000
2	\$150,000
1	\$85,000
1	\$70,000
15	\$1,400,000
10	\$570,000
225	\$38,355,941
6	\$250,000
17	\$2,000,000
12	\$1,200,000
2	\$160,906
2	\$80,000

To: Narvaez, Madonna[Narvaez.Madonna@epa.gov]
Cc: Fairchild, Susan[Fairchild.Susan@epa.gov]
From: McClintock, Katie
Sent: Thur 2/18/2016 9:57:42 PM
Subject: RE: Friday Bullseye glass meeting and pre-meeting

Yes, I plan to call in.

From: Narvaez, Madonna
Sent: Thursday, February 18, 2016 1:52 PM
To: McClintock, Katie <McClintock.Katie@epa.gov>
Cc: Fairchild, Susan <Fairchild.Susan@epa.gov>
Subject: FW: Friday Bullseye glass meeting and pre-meeting

Are you going to be on these calls?

From: DAVIS George [mailto:DAVIS.George@deq.state.or.us]
Sent: Thursday, February 18, 2016 1:14 PM
To: PEDERSEN Dick <Dick.PEDERSEN@state.or.us>; GOLDFARB Gabriela * GOV (Gabriela.GOLDFARB@oregon.gov) <Gabriela.GOLDFARB@oregon.gov>; MONRO David <David.MONRO@state.or.us>; DAVIS George <George.DAVIS@state.or.us>; Narvaez, Madonna <Narvaez.Madonna@epa.gov>; Doolan, Stephanie <Doolan.Stephanie@epa.gov>; McClintock, Katie <McClintock.Katie@epa.gov>; McCullough, Hugh <McCullough.Hugh@epa.gov>; Johnson, Steffan <johnson.steffan@epa.gov>; ARMITAGE Sarah <sarah.armitage@state.or.us>
Cc: FLYNT Jennifer <Jennifer.FLYNT@state.or.us>; DECONCINI Nina <Nina.DECONCINI@state.or.us>; FELDON Leah <Leah.FELDON@state.or.us>; GARRAHAN Paul <Paul.GARRAHAN@state.or.us>; DAVIS George <DAVIS.George@deq.state.or.us>
Subject: Friday Bullseye glass meeting and pre-meeting

Hello everyone,

In anticipation of the Friday afternoon meeting between Bullseye Glass and their attorneys Perkins Coie (Bullseye/PC), and DEQ, DOJ and the Governor's Office staff, DEQ has scheduled a pre-meeting Friday morning to discuss the Bullseye/PC meeting. We apologize for the late

notice, we know many of you have full schedules and won't be able to make it, but we ask that those who can please do so. We don't have an agenda yet, but hope to have something by the time the pre-meeting begins. The main purpose of this email is to get this on your calendars.

Pre-meeting date, time and location: Friday, 2/19, 10:00 am – 12:00 am (hopefully shorter than that) DEQ NWR office (700 NE Multnomah, 6th floor), room 601

We do not have a call-in number set up yet, we'll try to get that done before the pre-meeting and will forward the number to everyone in the morning.

Meeting date, time and location: Friday, 2/19, 2:00 pm – 4:00 pm, Perkins Coie office, 1120 NW Couch St., Portland, 10th floor

We do not have call-in information yet, but understand a call-in line will be set up. Again, we'll forward that information when we get it.

Important odds and ends:

The meeting with Bullseye/PC appears to involve discussion of both technical and non-technical topics. DEQ regards EPA's participation for the technical discussion as critical; however, we don't know how Bullseye/PC will feel about EPA's participation. If they object, we will have to figure out what to do on the fly.

Sarah, we hope you can attend the pre-meeting, and hope you will be able to call in for the afternoon Bullseye/PC meeting.

Possible/probable topics at the Bullseye/PC meeting:

Bullseye/PC requested the following from DEQ:

- To explain how the emissions data links Bullseye as the source of the emissions;
- and

- To provide the backup laboratory data that supports the air emissions sampling results that have been provided to them.

Suggested goals for the meeting from DEQ side:

- Listen and continue to build a cooperative, effective relationship;
- Provide the information we can to support our concerns about the health impacts of air emissions from Bullseye;
- Secure a longer commitment not to use any chromium, assuming we are not able to resolve the conversion, until we are able to reach a confident conclusion about risks;
- Confirm ongoing commitment not to use cadmium or arsenic;
- Start discussion about whether control technology option exists to control cadmium and arsenic emissions (and chromium, if necessary), or figure out a timeline and next steps toward resolving that question, and a discussion of technical and other state assistance that may be available to that end; and
- If we start to get a sense of a timeline and length of commitments Bullseye and we are making, start talking about documenting our commitments in writing, including a method to monitor to be able to provide public assurances that such agreement is being complied with.

Again, our apologies for the late notice and scant information, we hope to get things better sorted as the time gets closer.

George Davis

DEQ

503-229-5534

To: McClintock, Katie[McClintock.Katie@epa.gov]
Cc: Fairchild, Susan[Fairchild.Susan@epa.gov]
From: Narvaez, Madonna
Sent: Thur 2/18/2016 9:51:32 PM
Subject: FW: Friday Bullseye glass meeting and pre-meeting

Are you going to be on these calls?

From: DAVIS George [mailto:DAVIS.George@deq.state.or.us]
Sent: Thursday, February 18, 2016 1:14 PM
To: PEDERSEN Dick <Dick.PEDERSEN@state.or.us>; GOLDFARB Gabriela * GOV (Gabriela.GOLDFARB@oregon.gov) <Gabriela.GOLDFARB@oregon.gov>; MONRO David <David.MONRO@state.or.us>; DAVIS George <George.DAVIS@state.or.us>; Narvaez, Madonna <Narvaez.Madonna@epa.gov>; Doolan, Stephanie <Doolan.Stephanie@epa.gov>; McClintock, Katie <McClintock.Katie@epa.gov>; McCullough, Hugh <McCullough.Hugh@epa.gov>; Johnson, Steffan <johnson.steffan@epa.gov>; ARMITAGE Sarah <sarah.armitage@state.or.us>
Cc: FLYNT Jennifer <Jennifer.FLYNT@state.or.us>; DECONCINI Nina <Nina.DECONCINI@state.or.us>; FELDON Leah <Leah.FELDON@state.or.us>; GARRAHAN Paul <Paul.GARRAHAN@state.or.us>; DAVIS George <DAVIS.George@deq.state.or.us>
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Again, our apologies for the late notice and scant information, we hope to get things better sorted as the time gets closer.

George Davis

DEQ

503-229-5534

To: MONRO David[MONRO.David@deq.state.or.us]; Narvaez, Madonna[Narvaez.Madonna@epa.gov]; McClintock, Katie[McClintock.Katie@epa.gov]; DAVIS George[DAVIS.George@deq.state.or.us]
Cc: McCullough, Hugh[McCullough.Hugh@epa.gov]; Fairchild, Susan[Fairchild.Susan@epa.gov]; Johnson, Steffan[johnson.steffan@epa.gov]; Pope, Anne[Pope.Anne@epa.gov]; Dewees, Jason[Dewees.Jason@epa.gov]; Merrill, Raymond[Merrill.Raymond@epa.gov]; Werner, Leslye[Werner.Leslye@epa.gov]
From: Doolan, Stephanie
Sent: Fri 2/19/2016 5:16:42 PM
Subject: RE: do you know a hexavalent chromium expert in OAQPS?
[Website Kansas City Kan CrVI Air Monitoring.pdf](#)

Attached is a pdf of the website reporting the results of the CrVI air monitoring done in R7. I tried to send the QAPP earlier, but I think the email failed because of the file size. I'll try again.

Thank you!

Stephanie B. Doolan

Air & Waste Management Division

Air Planning and Development Branch

(913) 551-7719

Doolan.stephanie@epa.gov

From: MONRO David [mailto:MONRO.David@deq.state.or.us]
Sent: Wednesday, February 17, 2016 4:45 PM
To: Narvaez, Madonna <Narvaez.Madonna@epa.gov>; Doolan, Stephanie <Doolan.Stephanie@epa.gov>; McClintock, Katie <McClintock.Katie@epa.gov>; DAVIS George <DAVIS.George@deq.state.or.us>
Cc: McCullough, Hugh <McCullough.Hugh@epa.gov>; Fairchild, Susan <Fairchild.Susan@epa.gov>; Johnson, Steffan <johnson.steffan@epa.gov>; Pope, Anne <Pope.Anne@epa.gov>; Dewees, Jason <Dewees.Jason@epa.gov>; Merrill, Raymond <Merrill.Raymond@epa.gov>; Werner, Leslye <Werner.Leslye@epa.gov>

Subject: RE: do you know a hexavalent chromium expert in OAQPS?

All – thanks for starting this out. At this point we are planning on meeting with Bullseye on Friday at 2:00 pst. Is there anyone from this groups who is able to join the call and assist with the technical discussion (specifically re: tri to hex emissions potentials from the glass furnace)?

David Monro

Air Quality Manager, Northwest Region

office: 503.229.5160

cell: 503.793.9635

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From: Narvaez, Madonna [<mailto:Narvaez.Madonna@epa.gov>]

Sent: Wednesday, February 17, 2016 12:05 PM

To: Doolan, Stephanie; McClintock, Katie

Cc: McCullough, Hugh; Fairchild, Susan; MONRO David; Johnson, Steffan; Pope, Anne; Dewees, Jason; Merrill, Raymond; Werner, Leslye

Subject: RE: do you know a hexavalent chromium expert in OAQPS?

Thanks, Stephanie!

From: Doolan, Stephanie

Sent: Wednesday, February 17, 2016 11:37 AM

To: McClintock, Katie <McClintock.Katie@epa.gov>

Cc: McCullough, Hugh <McCullough.Hugh@epa.gov>; Fairchild, Susan <Fairchild.Susan@epa.gov>; MONRO David (MONRO.David@deq.state.or.us) <MONRO.David@deq.state.or.us>; Narvaez, Madonna <Narvaez.Madonna@epa.gov>; Johnson, Steffan <johnson.steffan@epa.gov>; Pope, Anne <Pope.Anne@epa.gov>; Dewees, Jason <Dewees.Jason@epa.gov>; Merrill, Raymond <Merrill.Raymond@epa.gov>; Werner, Leslye <Werner.Leslye@epa.gov>

Subject: Re: do you know a hexavalent chromium expert in OAQPS?

I'm out of the office today, but can send you the information from our air monitoring efforts. We did monitor for hex chromium with good, low level results. You can make some educated assumptions about how much will be hex, but without data, it's hard to know.

Sent from my iPhone

On Feb 16, 2016, at 11:18 PM, McClintock, Katie <McClintock.Katie@epa.gov> wrote:

Thank you all for your thoughtful help.

Oregon DEQ is having a meeting with Bullseye Glass on Friday specifically about whether they can melt trivalent and/or hexavalent chromium without risks to surrounding people. **They have requested technical support for this meeting.**

The conversation centers around whether the total chromium monitored nearby is likely to trivalent or hexavalent. The ambient total chromium concentration was 71.5 ng/m³ and if even a small fraction of that was hexavalent, that would be concerning. However, from the conversation below it sounds like hexavalent chrome emissions (whether from melting hex chrome or from conversion of tri chrome) may not persist and hex chrome in the ambient air. If this is the case it would be a wonderful sigh of relief for bullseye who already can't make anything with red, orange and yellow (and green was the killing blow).

I am wondering if one or two people from this great group of hex chrome minds could participate in that call Friday and could pre-meet with ODEQ on Thursday. Based on the email traffic today, you all have a lot of knowledge to share with DEQ that would help inform their path forward on chromium.

Please let me know if you are able and if you all decide while I am out on inspections tomorrow, if you could **email David Monro directly as soon as possible** (MONRO.David@deq.state.or.us), that would be perfect!

Thanks.

Katie

From: McCullough, Hugh
Sent: Tuesday, February 16, 2016 1:36 PM
To: Fairchild, Susan <Fairchild.Susan@epa.gov>
Cc: Narvaez, Madonna <Narvaez.Madonna@epa.gov>; Johnson, Steffan <johnson.steffan@epa.gov>; Pope, Anne <Pope.Anne@epa.gov>; Dewees, Jason <Dewees.Jason@epa.gov>; Merrill, Raymond <Merrill.Raymond@epa.gov>; McClintock, Katie <McClintock.Katie@epa.gov>; Werner, Leslye <Werner.Leslye@epa.gov>; Doolan, Stephanie <Doolan.Stephanie@epa.gov>
Subject: Re: do you know a hexavalent chromium expert in OAQPS?

Hello all,

I am no longer with the Region 7 air program, but I agree with the points made by Stef. During the RTR for wool fiberglass, we had a couple sources test their Cr6 emissions at the stack with 0061, and I recall from the field that it was challenging for them to get 'good' run.

R7 also conducted ambient air monitoring over a period of a month or two, but unfortunately I am out for training through April and do not have access to my notes. Stephanie Doolan from the R7 air planning group would probably be the best contact for information regarding the QAAP for that monitoring. I should know, but I can't confirm if the monitoring was for total chrome or if it was speciated. I have ccd Stephanie, as well as my previous supervisor, Leslye Werner.

Hope that helps. If there is anything else I can do to help in my limited capacity while I am away, please let me know.

Hugh

Sent from my iPhone

On Feb 16, 2016, at 4:21 PM, Fairchild, Susan <Fairchild.Susan@epa.gov> wrote:

<image002.gif>

Hugh McCullough 913-551-7191

Susan Fairchild

Senior Environmental Scientist

(919) 541-5167

USPS Address:

OAQPS/SPPD/MMG

Mail Code D 243-04

Research Triangle Park, NC 27711

From: Narvaez, Madonna

Sent: Tuesday, February 16, 2016 3:46 PM

To: Johnson, Steffan <johnson.steffan@epa.gov>; Pope, Anne
<Pope.Anne@epa.gov>

Cc: Fairchild, Susan <Fairchild.Susan@epa.gov>; Dewees, Jason
<Dewees.Jason@epa.gov>; Merrill, Raymond <Merrill.Raymond@epa.gov>;
McClintock, Katie <McClintock.Katie@epa.gov>

Subject: RE: do you know a hexavalent chromium expert in OAQPS?

What is R7 Hugh's last name?

From: Johnson, Steffan

Sent: Tuesday, February 16, 2016 11:36 AM

To: Narvaez, Madonna <Narvaez.Madonna@epa.gov>; Pope, Anne
<Pope.Anne@epa.gov>

Cc: Fairchild, Susan <Fairchild.Susan@epa.gov>; Dewees, Jason
<Dewees.Jason@epa.gov>; Merrill, Raymond <Merrill.Raymond@epa.gov>

Subject: RE: do you know a hexavalent chromium expert in OAQPS?

Madonna,

In my experience hexavalent forms of chromium are not stable when they are emitted from a source. In fact, EPA has put a good bit of effort into developing a test method designed specifically to capture hex-chrome compounds and keep them in hex form until analysis, as other chromium emissions test methods tend to let the chromium convert to trivalent forms. It is also my understanding (though certainly not the final word on the topic at all) that hex chrome emissions are likely to change state to trivalent chrome post-emission. I believe Jason DeWees and Ray Merrill of my group may also have information to add here, and so I am copying them on this e-mail.

The only reliable test approach that I know to quantify in-stack emissions of hex-chrome is to use a test method known as SW-846-0061. This method uses an alkaline reagent to trap hex-chrome and retain it in hexavalent form until the alkaline solution can be analyzed at a lab. The test method is a bit tricky, but if you need to know in-stack emissions we're certainly available to help you walk through development of a test protocol.

As to ambient sampling for hex chrome, I'll let Hugh in R7 tell you what he knows, my experience stops at the stack.

Please let us know if we can be of further assistance.

Stef

From: Narvaez, Madonna
Sent: Tuesday, February 16, 2016 12:26 PM
To: Pope, Anne <Pope.Anne@epa.gov>
Cc: Fairchild, Susan <Fairchild.Susan@epa.gov>; Johnson, Steffan <johnson.steffan@epa.gov>
Subject: do you know a hexavalent chromium expert in OAQPS?
Importance: High

Hi, Anne, Susan and Stef. Hope all is well. I don't know if you have heard about the colored glass manufacturer in Portland that DEQ discovered a cadmium hotspot around the facility. In the course of investigations, we discovered that the facility uses Cr+6 as a dry colorant for the glass. Ambient monitoring showed an average of 71.5

ng/m3 of total chromium. I don't know if Katie McClintock, the R10 enforcement contact has asked you for this information yet. If you can point us towards someone, we would really appreciate it. The company uses both Cr+3 and Cr+6, as well as cadmium and arsenic. In the next round of monitoring, the ODEQ will be monitoring for Cr+6 at the day care center, which is 220 meters from the facility. A cadmium hotspot was also detected close to the Harriet Tubman School. A much smaller colored glass mfg facility is close by.

- Katie McClintock did a cursory search for information on the conversion of trivalent chromium to hexavalent chromium and found little information, all of which was talking about smelting and coating. The research confirmed that the use of trivalent chromium alone can still produce hexavalent chromium, but found little data on the conversion rate under various circumstances. We need to develop or find an expert who can read more literature and help interpret the data we find in stack tests and ambient monitoring.

Thanks!

=====

Madonna Narvaez

Regional Air Toxics Coordinator

USEPA, Region 10

1200 Sixth Avenue, Ste 900

MC: AWT-150

phone: 206-553-2117

fax: 206-553-0110

narvaez.madonna@epa.gov

Follow @EPAnorthwest on Twitter! <https://twitter.com/EPAnorthwest>



Region 7 Air Program

You are here: [EPA Home](#) [About Region 7](#) [Air Program](#) Kansas City, Kan., Chromium VI Air Monitoring

Kansas City, Kan., Chromium VI Air Monitoring

Background

As part of the Mineral Wool Production and Wool Fiberglass Manufacturing rulemaking, EPA sent requests to 29 fiberglass manufacturing plants across the nation, asking them to provide emissions data. Here in Region 7 (Iowa, Kansas, Missouri, Nebraska and nine Tribal Nations), EPA learned that the CertainTeed plant in the Fairfax Industrial District of Kansas City, Kan., showed chromium VI emissions that were higher than any other facility in the industry. It is believed that refractory bricks used in CertainTeed's manufacturing process are the source of the facility's chromium VI emissions. To determine if these emissions may pose health concerns for local residents, EPA Region 7 decided to conduct air monitoring at John Garland Park, located between the facility and nearby residential areas.

[Quality Assurance Project Plan - Chromium VI Air Study, Kansas City, Kan. \(PDF\)](#) (86 pp, 15.17MB, [About PDF](#))

Preliminary Results

Results of air monitoring show that the chromium VI levels in air do not indicate a health concern. Region 7 placed monitoring equipment in John Garland Park in December 2011 to measure chromium VI concentrations in the air and to determine whether further action, if any, is necessary. Chromium VI air sample results for December 2011 through March 2012 are summarized below.

The CertainTeed plant normally operates two furnaces (K1 and K2). K2 has temporarily ceased operations. Only the K1 furnace was operating during the air monitoring conducted after Dec. 11, 2011. Chromium VI air sampling has been suspended due to the low levels detected in the outdoor air samples. If operation of the K2 furnace resumes, EPA will re-evaluate the need to resume chromium VI air monitoring.

KANSAS CITY CHROMIUM VI AIR SAMPLING RESULTS

Measurements in nanograms per cubic meter (ng/m³)

DECEMBER 2011								
Sample Date	12/8	12/11	12/14	12/17	12/20	12/23	12/27	12/29
Monitor C1	0.015	*ND	0.0327	0.0128	1.05	0.0132	0.0503	0.0126
Monitor C2	0.0162	*ND	0.0291	0.0129	1.02	0.0121	**no sample	0.0138
Wind Direction	N	SSW	SSW	SW	NE	SW	NW	SW

JANUARY 2012											
Sample Date	1/1	1/4	1/7	1/11	1/13	1/16	1/19	1/22	1/25	1/28	1/31
Monitor C1	*ND	0.0195	0.0593	0.0171	*ND	0.022	0.0411	*ND	0.0471	*ND	0.0162
Monitor C2	*ND	0.0183	0.0568	0.0411	0.0146	0.0094	0.037	*ND	0.0447	*ND	0.011
Wind Direction	NW	NW	NE	NW	WNW	SSW	NNE	S	ENE	SW	SW

FEBRUARY 2012									
Sample Date	2/3	2/6	2/9	2/12	2/15	2/18	2/21	2/24	2/27
Monitor C1	0.0952	0.0079	0.0142	0.0173	0.0909	0.087	*ND	*ND	0.0284
Monitor C2	0.105	0.0132	0.0176	0.0199	0.111	0.0963	*ND	*ND	0.028
Wind Direction	ENE	NW	SW	SSE	ENE	NE	NW	SW	N

MARCH 2012							
Sample Date	3/1	3/4	3/7	3/10	3/13	3/16	3/19
Monitor C1	0.0272	0.0078	*ND	0.0202	0.0843	0.0086	0.0089
Monitor C2	0.0314	0.0078	*ND	0.0167	0.0833	0.0093	0.0081
Wind Direction	N	ENE	NW	SSE	S	SSE	SSE

* ND – Non detect | ** Monitor malfunction

Other Scientific Data

- EPA also used computer modeling on stack test emissions data in reaching its initial conclusions that there are no immediate health concerns. The stack test emissions data were provided to EPA by CertainTeed as part of the rulemaking and additional tests ordered by the Agency. A second round of stack test sampling by all 29 U.S. fiberglass plants has been requested by EPA's Office of Air Quality Planning and Standards (OAQPS). OAQPS has also asked manufacturers to provide the amount of chromium VI in their refractory bricks.
- Recent soil samples taken by EPA as part of another project in the Garland Park Landfill area also did not indicate chromium levels that would be of health concern.

Chromium VI (Hexavalent Chromium)

Chromium occurs naturally in rocks, animals, plants, and soil. It can exist in several different forms. Depending on the form it takes, it can be a liquid, solid, or gas. The form of chromium of most concern from a health perspective is chromium VI, also called hexavalent chromium. Inhalation of chromium VI at high levels can damage the respiratory system and cause cancer. Other forms of chromium are chromium (0) and chromium (III). Chromium (0) is the metal form of chromium. It is used in steel manufacturing. Chromium VI and chromium (III) are used for chrome plating, dyes and pigments, refractory bricks, leather tanning, and wood preserving. Chromium (III) is an essential nutrient that helps the body use sugar, protein, and fat.

Exposure to chromium occurs from ingesting contaminated food or drinking water or breathing contaminated air. It is odorless and tasteless. Air emissions of chromium are predominantly of chromium (III), and in the form of small particles or aerosols. The largest industrial sources of chromium in the atmosphere are those related to ferrochrome production. Ore refining, chemical and refractory processing, cement-producing plants, automobile brake lining and catalytic converters for automobiles, leather tanneries, and chrome pigments are also sources of chromium emissions to ambient air.

For more information, please contact:

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STATE	COUNTY	STATE COUNT Y FIPS	FACILITY REGISTRY IDENTIFIER	NEI SITE ID	FACILITY NAME	HAP	1990 TRI Emissions (tpy)	1991 TRI Emissions (tpy)
WA	Snohomish	53061	110020498978	NEIWAT\$13495	SPECTRUM GLASS CO INC	Cadmium Compounds		
WA	Snohomish	53061	110020498978	NEIWAT\$13495	SPECTRUM GLASS CO INC	Chromium Compounds		
WA	Snohomish	53061	110020498978	NEIWAT\$13495	SPECTRUM GLASS CO INC	Manganese Compounds		0.005
WV	Wood	54107	110000344832	NEIWVT\$2742	THE FENTON ART GLASS CO.	Antimony Compounds		
WV	Wood	54107	110000344832	NEIWVT\$2742	THE FENTON ART GLASS CO.	Lead Compounds	0.0625	
WV	Wood	54107	110000344832	NEIWVT\$2742	THE FENTON ART GLASS CO.	Selenium Compounds		
OR	Multnomah	41051	110000487107		Bullseye Glass	Zinc Compounds		
OR	Multnomah	41051	110000487768		Uroboros Glass	Zinc Compounds		

1992 TRI Emissions (tpy)	1993 TRI Emissions (tpy)	1994 TRI Emissions (tpy)	1995 TRI Emissions (tpy)	1996 TRI Emissions (tpy)	1997 TRI Emissions (tpy)	1998 TRI Emissions (tpy)	1999 TRI Emissions (tpy)	2000 TRI Emissions (tpy)	2001 TRI Emissions (tpy)
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				0.006	0.005	0.011		0.005	
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				0.006		0.0065			
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0.005		0.1275		0.01		0.018		0.007	
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							1.759		
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	0.046	0.176	0.126	0.5265	2.142	1.582	1.3145		0.3525
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			0.715						
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2002 TRI Emissions (tpy)	2003TRI Emissions (tpy)	2004 TRI Emissions (tpy)	2005 TRI Emissions (tpy)	2006 TRI Emissions (tpy)
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0.007

0.707 0.772 0.6565 0.479 0.3595

NEI32853 Modeled Maximum 1-Hour Chromium VI Concentrations ($\mu\text{g}/\text{m}^3$)

0 100 200 300 400 500 Meters